



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,327	11/21/2003	Kenneth F. Fennewald	7377-000005/US	2615
28997	7590	02/15/2005	EXAMINER	
HARNESS, DICKEY, & PIERCE, P.L.C			FASTOVSKY, LEONID M	
7700 BONHOMME, STE 400			ART UNIT	
ST. LOUIS, MO 63105			PAPER NUMBER	

3742

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/719,327

Applicant(s)

FENNEWALD ET AL. *e*

Examiner

Leonid M Fastovsky

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 12, 15-18 and 24 is/are withdrawn from consideration.
- 5) ☒ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13, 14 and 19-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 November 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Receipt of Applicant's amendment filed on 11/13/04 is acknowledged.

Upon further consideration the Restriction/Election of claim 4 has been withdrawn and it is treated on its merits in this Office Action.

However, claim 12 is still withdrawn because it belongs to the non-elected species of Fig. 4.

Specification

2. The abstract of the disclosure is objected to because it contains an extraneous word "comprises". Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 3-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashi et al (5,504,307).

Hayashi teaches a thin film heater comprising at least one resistive layer 5a, the resistive layer made out of NiCr (col. 5, lines 25-44), thus inherently having sufficient

Art Unit: 3742

temperature coefficient of resistance characteristics such that the resistive layer is a heater element and a temperature sensor, and a two-wire controller 61 connected to the resistive layer of the heater 51 (Fig. 17), wherein the controller determines temperature of the thin film heater using the resistance of the resistance layer 5a and controls the heater temperature accordingly.

As for claim 4, Hayashi teaches a thermally sprayed heater (col. 1, lines 59-63).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Little (6,043,467).

Hayashi discloses substantially the claimed invention comprising a heater system (Fig. 4) comprising a film heater defining a substrate 2, a dielectric layer 4, a resistive layer 5a, a protective layer 6, and a two-wire controller 61, but does not disclose a thick film heater. Little discloses a thick film heater having conductive track 3 made out of nickel (col. 3, lines 1-10) and a controller (col. 6, lines 1-10). It would have been obvious to one having ordinary skill in the art to modify Hayashi's invention to include a thick film as taught by Little in order to carry control of the temperature in Hayashi's heater system.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Miyata et al (6,448,538).

Hayashi teaches substantially the claimed invention, but does not teach a sol-gel heater and thermal spray. Miyata teaches a sol-gel heater (col. 10, lines 10-20) and thermal spray (col. 20, lines 36-44). it would have been obvious to one having ordinary skill in the art to modify Hayashi's invention to include a sol-gel heater in order to protect the exposed edge from the outside covering with a ceramic film as taught by Miyata (col. 10, lines 12-17).

8. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Haas (6,770,848).

Hayashi teaches substantially the claimed invention, but does not teach a controller with DC and AC control. Haas teaches a film heater 50 comprising a controller 30 capable of operating with DC or AC control. It would have been obvious to one having ordinary skill in the art to modify Hayashi's invention to use a controller with AC or DC control as taught by Haas in order to control calculation of the resistance of the resistive layer of Hayashi.

9. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Lumsden (6,489,742).

Hayashi teaches substantially the claimed invention, but does not teach a controller having an angle firing and a shunt resistor. Lumsden teaches a controller 8 comprises an angle firing (col. 7, lines 1-10) and shunt resistor (claim 1). It would have been obvious to one having ordinary skill in the art to modify Hayashi's invention to include a controller comprising an angle firing and a shunt resistor for controlling current as taught by Lumsden (col. 6, lines 55-67).

Art Unit: 3742

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Waggoner et al (6,752,491).

Hayashi teaches substantially the claimed invention, but does not teach a controller with firmware. Waggoner teaches a heater resistor having a controller 80 comprising firmware. It would have been obvious to one having ordinary skill in the art to modify Hayashi's invention to include a controller comprising firmware in order to control various functions as taught by Waggoner (col. 2, lines 63-67).

11. Claims 11 and 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hayashi in view of Godwin.

Hayashi discloses substantially the claimed invention including a controller, but does not disclose a microprocessor and a method of operating a layered heater. Godwin discloses a heater system comprising film heaters 63,65 and 67, a controller and a microprocessor (col. 7, lines 15-30). It would have been obvious to one having ordinary skill in the art to modify Hayashi's invention to include a microprocessor as taught by Godwin in order to carry logic operation means (col. 7, lines 16-23) that are also applied to a method of operating a layer heater of Hayashi.

Response to Arguments

12. Applicant's arguments with respect to claims 1-11, 13-14 and 19-23 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 3742

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonid M Fastovsky whose telephone number is 571-272-4778. The examiner can normally be reached on M-Th. 8.00 am -6.00 pm.

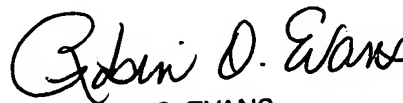
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Leonid M Fastovsky
Examiner
Art Unit 3742

2/8/05

lmf


ROBIN O. EVANS
PRIMARY EXAMINER
2/11/05